

**Listing of Claims:**

1. – 86.(CANCELLED)

87. (PREVIOUSLY PRESENTED) A method for reprogramming a non-human animal somatic cell nucleus, comprising activating the somatic cell nucleus by contacting said somatic cell nucleus with the cytoplasm of an MII oocyte followed by an activating egg cytoplasm, preparing a recipient egg, wherein the recipient egg is from the same species as the somatic cell nucleus, and transplanting the somatic cell nucleus into the recipient egg to yield a transplanted nucleus, wherein said transplanted nucleus is reprogrammed to direct development of an embryo.

88. (CANCELLED)

89. (PREVIOUSLY PRESENTED) A method for activating a somatic cell nucleus, comprising contacting said somatic cell nucleus with the cytoplasm of an MII oocyte followed by the cytoplasm of an egg just prior to S-phase to yield an activated nucleus.

90. (ORIGINAL) The method of claim 89, wherein said nucleus comprises nuclear swelling, nucleic acid replication, and nuclear entrance into mitosis.

91. (PREVIOUSLY PRESENTED) A method of reprogramming a nucleus of a somatic cell to bring about nuclear activation, comprising pretreating said nucleus to release said nucleus from surrounding cytoskeleton and contacting said pretreated nucleus with a cytostatic factor extract followed by an activating egg cytoplasm.

92. (ORIGINAL) The method of claim 91, wherein said pretreating step comprises permeablization of said somatic cell.

93. (ORIGINAL) The method of claim 91, wherein said pretreating step comprises alteration of the cytoskeletal proteins and nuclear matrix proteins of said somatic cell.

94. (ORIGINAL) The method of claim 91, wherein said pretreating step comprises permeablization of said somatic cell and alteration of the cytoskeletal proteins and nuclear matrix proteins of said somatic cell.

95. (ORIGINAL) The method of claim 91, wherein said cytostatic factor extract further comprises a compound selected from the group consisting of  $\beta$ -glycerol phosphate, creatine phosphate, phosphocreatine kinase, and  $\text{Ca}^{2+}$ .

96. (ORIGINAL) The method of claim 94, wherein said  $\text{Ca}^{2+}$  is present at a concentration of 100  $\mu\text{M}$  to 400  $\mu\text{M}$ .

97. (PREVIOUSLY PRESENTED) A method for cloning a non-human animal from a somatic cell nucleus, comprising activating the somatic cell nucleus by contacting said somatic cell nucleus with the cytoplasm of an MII oocyte followed by an activating egg cytoplasm, preparing a recipient egg, wherein the recipient egg is from the same species as the somatic cell nucleus and transplanting the somatic cell nucleus into the recipient egg to yield a transplanted nucleus, wherein said recipient egg develops into said cloned non-human animal under the direction of genetic information contained in the transplanted somatic cell nucleus and under conditions for development of said new non-human animal.

98. (PREVIOUSLY PRESENTED) A method for cloning a non-human animal from a somatic cell nucleus, comprising activating said somatic cell nucleus with a cytostatic factor extract followed by an activating egg cytoplasm, preparing a recipient egg, and transplanting the somatic cell nucleus into the recipient egg to yield a transplanted nucleus, wherein the recipient egg is from the same species as the somatic cell nucleus and wherein the recipient egg develops into said cloned non-human animal under the direction of genetic information contained in the transplanted somatic cell nucleus and under conditions for development of said new non-human animal.

99. (NEW) The method of Claim 87, wherein said activating egg cytoplasm comprises a cytoplasm of an egg just prior to s-phase.

100. (NEW) The method of any of Claims 87, 91, 97, or 98, wherein said activating egg cytoplasm does not contain a nucleus.